THE

PREVENTION OF INSANITY.

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GUSTAVUS ELIOT, A.M., M.D.,

NEW HAVEN, CONN.

[From the Proceedings of the Conn. Medical Society, May, 1886.]

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THE PREVENTION OF INSANITY.

By Gustavus Eliot, A.M., M.D., New Haven, Connecticut.

The study of diseases of the mind has, during the last twenty years, commanded a constantly increasing share of the attention of the medical profession. More and better facilities for instruction in this department are now offered than ever before by the various medical schools, both undergraduate and post-graduate. Numerous special societies, both national and local, have been organized with a view of promoting the study and discussion of the various subdivisions of the subject. As a result of their influence not only have many articles appeared in the journals of general medicine, but also a number of journals devoted exclusively to nervous and mental diseases have helped to disseminate the latest views of American and European specialists. And finally, within a few years, several manuals and text-books, treating the subject systematically, have been published. Dr. E. C. Spitzka, in the preface to his manual, under date of April 10, 1883, refers to the work as "the first systematic treatise on insanity published on this side of the Atlantic since the days of the immortal Rush." Dr. William A. Hammond, under date of May 1, 1883, writes: "For the last seventeen years I have been a teacher on the subject of 'Diseases of the mind and nervous system,'" and adds: "The first professorship of that branch of medical science in this country was held by me."

The symptomatology and treatment of the various forms of insanity have been so thoroughly investigated, and the conclusions reached have been rendered so accessible, that those of us who aspire to be general practitioners have no longer any excuse for continuing to neglect the subject. It is to the family physician

that insane patients are brought when they begin to "act queerly" — often before their friends suspect any serious disorder of the mind. It is of the greatest importance that the symptoms in these cases should be correctly interpreted as early as possible, for then will treatment prove most effective. Equally important is it, after the correct interpretation has been determined, to select an appropriate plan of treatment. The day when uncontrollable violence was considered the most important symptom of insanity, as well as the equally dark day when the prevention of homicide and suicide was regarded as the chief indication for treatment, and confinement in an asylum as the most available therapeutic measure, have happily passed away.

But while it is necessary for us, as practical physicians, to be familiar with the symptoms and treatment of insanity, as sanitarians we must also study its causes and prevention. Bacteriology is now the fashionable craze with sanitarians. The study of the zymotic diseases has long occupied the uppermost place in their minds. It is possible that in this direction preventive medicine will always show the best results. But sewer-gas and microbes are not the only causes of disease. These other morbific agents are also deserving of careful study.

Heretofore it has been customary to discuss the etiology of insanity from what may be called a psychological standpoint. It is the purpose of this paper to consider it from a physiological and pathological standpoint. Our knowledge of the morbid anatomy and pathology of insanity, though still far from complete, has been greatly advanced during the last twenty years. It will be interesting, starting with our present knowledge as a basis, to consider how the well-recognized causes of insanity act in disturbing the cerebral functions, and producing the lesions found in the brains of those who have died insane, and, subsequently, to attempt to point out how the injurious action of these causes may be avoided.

In the light of our present knowledge it is perhaps fair to assume that the various manifestations of mental disease are, as a rule, dependent upon some disturbance of the nutrition of the nervous structures of the cerebrum; and that these disturbances of nutrition may consist either of alterations of structure discernible in some cases with the unaided eye, in other cases only on careful examination with the microscope; or of changes which cannot be detected after death by any methods of examination now known. The

changes which can be determined consist partly of alterations of the structure, course, and surrounding tissues of the vessels; partly of degenerative changes of the ganglionic nerve cells, and connecting fibres; partly of changes of the neuroglia or supporting connective tissue of the brain; and partly of inflammatory changes in the membranes of the brain. These palpable changes of structure, as well as the changes of nutrition dependent upon impalpable changes of structure, are due in a large proportion of cases to changes in the circulation of the brain. These changes in the circulation, upon which so many forms of perverted nutrition depend, consist sometimes of an excess of blood, sometimes of a deficiency of blood, sometimes of a supply of blood of poor quality, sometimes of a supply of blood containing irritating substances, sometimes of such a disturbance of the circulation as interferes with the elimination of the waste products of cerebral activity, and sometimes of an interference with the bio-chemical changes by which the integrity of the nervous structures is restored after use.

It is obvious, therefore, that in order that there may be perfect mental health, it is essential that at the very beginning there should be perfect nervous structure, that subsequently the nutritive processes should go on in a normal manner, and that no irritative processes should be established in any part of the brain or its membranes.

In contributing to congenital imperfection and inherent weakness of nervous structure the influence of heredity stands preëminent. Its importance is universally recognized. It is possible to partially obviate this influence in two ways: in the first place, as regards its effect upon offspring, by care in the selection of husbands and wives; in the second place, as regards the child born with a hereditary taint, by care in regard to education and training.

As interfering with the normal nutritive processes there may be enumerated the loss of sleep, insufficient food, and excessive and depressing mental strain, including care, worry, chagrin, disappointment, and similar agencies. Every organ of the body requires rest, and, inasmuch as during every wakeful hour the brain is constantly active, the inference is reasonable that sleep is essential in order that the brain may obtain its needed rest. The loss of it may not be felt at once, but surely, sooner or later, he who works

his brain, without giving it a suitable amount of sleep, will suffer from cerebral derangement of some kind.

Of almost equal importance with rest is a sufficient supply of nutritious food. Puerperal insanity is most frequently seen in half-starved, poorly nourished women. In order to be able to perform their functions in a normal way, the nervous cells, impoverished by previous activity, must be supplied with an amount of nutriment adequate to restore their integrity. Fortunately, in our country the action of this cause is not often observed, and the remedy is usually easily and quickly provided.

Of primary importance, also, are correct habits of thought. Persons who allow themselves to be easily irritated, cultivate a habit of irritable nervous action, and so predispose themselves to insanity. Constant contemplation of one's own self, particularly of one's own misfortunes, whether actual and absolute, or only relative as compared with another's good fortune, gradually narrows the range of mental activity, so that the mind becomes incapable of bearing the somewhat unusual burdens which are likely, at any time, to be cast upon it. Limiting one's range of thought and interest acts in a similar way, and is often combined with the equally injurious habit of constant overwork and worry in business, without taking time for recuperation of the physical forces, and without permitting any mental relaxation. In order to avoid the action of these causes one must practice self-control, must cultivate breadth of interest, must keep his mind out of narrow grooves, and must take time for recreation of both body and mind. In this connection must also be mentioned the unfortunate effect upon the mind of idleness. Mental occupation is as necessary to healthful mental action as rest. A similar disastrous influence is the suffering of long-continued annoyance on account of disappointments and unpleasant occurrences within the range of one's personal interests. This, in the experience of the writer, has been an exceedingly fruitful cause of particularly painful forms of insanity. If influences of this kind are to be avoided, one must learn to forget disappointments, to become easily reconciled to what has already happened, and to look at the bright side, rather than the dark side, of both present and future.

There remain for discussion those causes which produce distinct pathological lesions. Some of the causes already enumerated as

interfering with cerebral nutrition, cause also disturbances of the blood supply of the brain. Insomnia and excessive mental activity give rise to cerebral congestion; insufficient or poor quality of food, to cerebral anæmia. Again, the cerebral tissues may be subjected to the action of direct irritants contained in the blood. Of these irritating substances none does more injury than alcohol. It has more influence in the production of insanity than any other causative agency except heredity. It is probable that alcohol and heredity together contribute more to the present prevalence of insanity than all other causes combined. Other irritant substances which occasionally find their way into the blood, and to the brain, are absinthe, ergotized rye, diseased Indian corn, chloral, morphine, the bromides, salicylic acid and its compounds, and belladonna.

Other irritant substances sometimes exist in the blood, which have been formed in the body, and which have been allowed to accumulate in the blood on account of insufficient activity of the excretory organs. This condition of things may be observed after prolonged constipation, and in the course of chronic diffuse nephritis. The presence of these excrementitious substances in the blood undoubtedly may coöperate with other causes in producing insanity. Similarly, the delirium, which occurs in diseases characterized by a considerable elevation of temperature, and which seems to be allied in its nature to insanity, is believed to be due to the irritant action of blood overheated, and contaminated with the products of destructive metamorphosis. This action is observed earlier, and is of a more severe character in cases where the nervous tissues have already been subjected to the irritant action of alcohol. There is also some ground for the belief that sewer-gas and malaria — the specific morbific agent which produces the periodical fevers — are both occasionally causes of insanity.

The consideration of insanity, due to lesions of other organs than the brain, that due to injuries of the brain, and that occurring secondarily to other diseases, has been omitted, as being practically beyond reach of the sanitarian.

Although the conclusions arrived at have no claim to the merit of novelty, they are none the less important. They may be summarized as follows:

In order to prevent the occurrence of insanity it is necessary

I. To avoid the transmission of a hereditary tendency thereto,

by discouraging marriage between persons of like tendencies in this direction.

II. In persons with a hereditary or acquired tendency in this direction, to counteract the tendency as far as possible,

1. By ensuring regularly an adequate amount of sleep, and a sufficient quantity and variety of nutritious food.

2. By securing recreation and relaxation.

3. By maintaining the action of the secretory and excretory organs.

4. By avoiding entirely the use of alcohol and other cerebral stimulants.

5. By cultivating habits of self-control.

6. By encouraging objectivity rather than subjectivity of thought, breadth, and not narrowness of mental activity.

7. By avoiding anxiety and excessive mental exertion.

8. By taking disappointments philosophically, forgetting them quickly, and not brooding over the unpleasant occurrences of the past, but anticipating with cheerfulness the events of the future.

New Haven, Conn., April 22, 1886.